142340

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Request for Concurrence on the Explanation of Significant Differences for the **NL Industries/Taracorp** Site, Granite City, Illinois

FROM: Eric Cohen, Chief
Multimedia Branch II

James Makra, Chief
Remedial Response Branch #1

TO: William E. Muno, Director
Superfund Division

The purpose of this memorandum is to convey our recommendation that you sign the attached Explanation of Significant Differences (ESD) for the NL Industries/Taracorp Site, which is located in Granite City, Illinois.

The ESD was prepared in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499; to the extent practicable, the National Contingency Plan, 40 CFR Part 300; and Agency policy. We have reviewed the attached documents and have concluded that the ESD is both legally and technically sufficient. As such, we believe that implementation of this remedial measure is a proper exercise of your delegated authority.

Please feel free to contact either of us should you have any questions.

Attachment

cc: Thomas Skinner,Illinois EPA
Sandy Bron, Illinois EPA
Jeff Leed, Leed Environmental

EXPLANATION OF SIGNIFICANT DIFFERENCES

for the

NL INDUSTRIES SITE
GRANITE CITY, ILLINOIS

INTRODUCTION

The purpose of this document for the NL Industries/Taracorp Superfund Site (NL Site or the Site) is to explain how remedial activities will differ from the remedial action selected by the U.S. Environmental Protection Agency (EPA) in the Record of Decision (ROD) signed on March 30, 1990 and the Decision Document/Explanation of Significant Differences (DD/ESD) signed on September 29, 1995.

Based on recent ground water data, it appears that lead does not migrate appreciably in the ground water after it is released from the Taracorp slag pile. The data indicate that lead travels less than 200 feet from its point of release at the Taracorp pile before presumably being immobilized by the soil.

Therefore, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 117(c), 42 U.S.C. § 9617(c), and Section 300.435(c)(2)(I) of the National Contingency Plan (NCP), 40 C.F.R. § 300.435(c)(2)(I), U.S. EPA is publishing this Explanation of Significant Differences. As required by Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2), this ESD will become part of the NL Industries Administrative Record which is available for review at the Granite City City Hall, City Clerk's Office, 2000 Edison Ave., Granite City, Illinois and the U.S. EPA Records Center located at 77 West Jackson Boulevard, Chicago, Illinois. The information used in U.S. EPA's assessment, including the most recent ground water data, is currently available at the cited repository.

SUMMARY OF SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

The NL Site, located in Granite City, Madison (including Eagle Park Acres), and Venice, Illinois, is the location of a former secondary lead smelting facility (see Figure 1). Metal refining, fabricating, and associated activities have been conducted at the Site since the turn of the century. From 1903 to 1983 secondary lead smelting occurred on-site. Secondary lead smelting operations were discontinued during 1983 and the equipment dismantled. Taracorp Industries owned the Site from 1979 to 1997. Metalico, the current owner of the main industrial site, continues to perform metal refining at the facility.

The NL Site was listed on the National Priorities List, 40 C.F.R. Part 300 (NPL), on June 10, 1986. NL, as former owner of the site, voluntarily entered into an Agreement and Administrative Order by Consent with the EPA and Illinois EPA in May 1985 to implement a Remedial Investigation and Feasibility Study (RI/FS). The RI/FS was completed in January 1990.

The RI for the NL Site indicated the need to prevent ingestion and inhalation of lead-contaminated soils and waste materials in the Taracorp pile and the remainder of the main

industrial site, residential soils contaminated by lead fallout from the smelter stack, and battery case material used as fill material for alleys, driveways, and other areas. Additionally, the RI indicated the need for further ground water monitoring in the deeper zone of the upper aquifer and a mechanism for remediation of any contaminants in the ground water that are detected in concentrations that would present an endangerment to public health or the environment.

Different alternatives to address Site contamination were evaluated in the NL Feasibility Study and Addendum, which was authored by EPA. After a detailed analysis of the alternatives, EPA issued a Proposed Plan detailing EPA's proposed remedy. After taking into consideration all public comments, the Regional Administrator signed a Record of Decision (ROD) on March 30, 1990. The remedy specified in the ROD contained, among other things, a requirement for further ground water monitoring; at that time, ground water samples were being filtered through a 0.45 micron filter, and no levels of lead or other metals exceeded applicable standards.

Negotiations between EPA and potentially responsible parties (PRPs) at the NL Site to design and construct the Site remedy failed. EPA sued certain PRPs to compel them to perform the Site remedy and to collect penalties for their failure to do so. Starting in 1991, EPA performed the Remedial Design for the Site and about half of the Remedial Action. In July 1998, some of the generator defendants took over the Remedial Action and have finished nearly all of the cleanup activities at the Site.

During the Remedial Design for the NL Site, the sample extraction and preparation methods were changed to low flow sampling techniques with no filtering of metals prior to analysis. For metals, this method was and continues to be considered more applicable to what would actually be consumed in drinking water. Analytical results from 1992 and 1993 indicated that lead levels in the monitoring wells downgradient from the Taracorp pile exceeded the action level of 15 parts per billion (ppb). The monitoring system at the Site consisted only of perimeter wells; there were no monitoring wells more than 200 feet from the toe of the Taracorp pile, and all of the downgradient perimeter wells were located on contaminated material that was spread on the surface of the main industrial area.

In response to these new findings, EPA included a ground water remedy component in the September 29, 1995, Decision Document/Explanation of Significant Differences (DD/ESD). The DD/ESD stated:

> "U.S. EPA has chosen to contain the ground water contamination at the Site through pumping, treatment, and discharge to the local Publically-Owned Treatment Works... As part of the selected ground water remedy, further downgradient ground water monitoring will be needed to determine the extent of the ground water contamination plume...."

After the installation of additional monitoring wells in March and June 2000, data collected

indicate that the lead in ground water does not migrate more than 200 feet from the Taracorp pile (See Figures 1 through 6 for monitoring well locations) . Elevated levels of lead were not detected in any of the newly-installed wells outside of the perimeter of the Taracorp pile. When the DD/ESD was written, EPA thought that there was a considerable plume of contaminated ground water emanating from the Taracorp pile. The pile consistently failed the TCLP test for lead. Based upon the new data, EPA now believes that there is a very limited plume of lead contamination; the lead appears to travel less than 200 feet before adhering to soil particles. The lead mobilization near the Taracorp pile is probably due to the fact that a battery breaking area existed on the north side of the pile. Acid released from the broken batteries may mobilize the lead in ground water; the lead becomes immobile again once the acid is buffered by mixing with ground water outside the battery breaking area. Additionally, highly lead-contaminated waste material on the main industrial site was consolidated with the Taracorp pile, and the Taracorp pile was provided with a RCRA subtitle C, multilayered cap in 1999. This consolidation and capping will divert precipitation away from the waste materials in the Taracorp pile and, thus, decrease the amount of lead leaching from the pile and other areas of the main industrial area in the future.

Collectively, the recent site information indicates that ground water contamination at the Site is very limited and will likely decrease even further in the future. Also, since the local residents are all on a municipal water supply and there are no private drinking wells in the vicinity of the Site, there is currently no health risk to any receptors posed by ground water at the Site. Thus, based on current information, there is not a legitimate reason to require the installation of a ground water containment system at the Site.

DESCRIPTION OF THE SIGNIFICANT DIFFERENCES

As discussed above, this ESD pertains only to the ground water remedy at the NL Industries/Taracorp Site. The 1995 DD/ESD required a containment system for what was thought to be a lead ground water plume originating at the Taracorp pile and main industrial area, based on perimeter monitoring. This ESD changes this provision of the DD/ESD to require only further monitoring of ground water at the NL Site, with a contingency plan to be developed to address the situation if, in the future, lead migrates outside of the perimeter wells at levels that exceed applicable standards.

THE BASIS FOR THIS ESD

The primary basis for this ESD is that recent ground water samples taken at the Site indicate that lead does not migrate more than 200 feet from the perimeter of the Taracorp pile. The lead likely adsorbs onto soil particles shortly after its release from the pile. Given this information, there is no basis to require a containment system for Site ground water. EPA anticipates that the concentration of lead in ground water in the perimeter wells will decrease

since the contaminated main industrial area soils were consolidated with the Taracorp pile and the pile was capped in 1999. The appropriate remedy for Site ground water is 1) to continue monitoring via the expanded monitoring well network at the site, and 2) develop a contingency plan to address any exceedances of ground water standards that may occur outside of the perimeter wells in the future.

SUPPORT AGENCY COMMENTS

The State of Illinois concurs with this Explanation of Significant Differences.

AFFIRMATION OF THE STATUTORY DETERMINATIONS

Based upon current ground water monitoring at the NL Industries Site, EPA has changed the remedy selected in the ROD and DD/ESD. EPA and Illinois EPA believe that the remedy remains protective of human health and the environment. The changes comply with federal and state requirements identified in the ROD and DD/ESD as applicable or relevant and appropriate to this remedial action. The revised remedy uses permanent solutions and alternate treatment technologies to the maximum extent practicable for the NL Industries Site and is cost effective.

Concur Wm. E. Muno 9/19/00

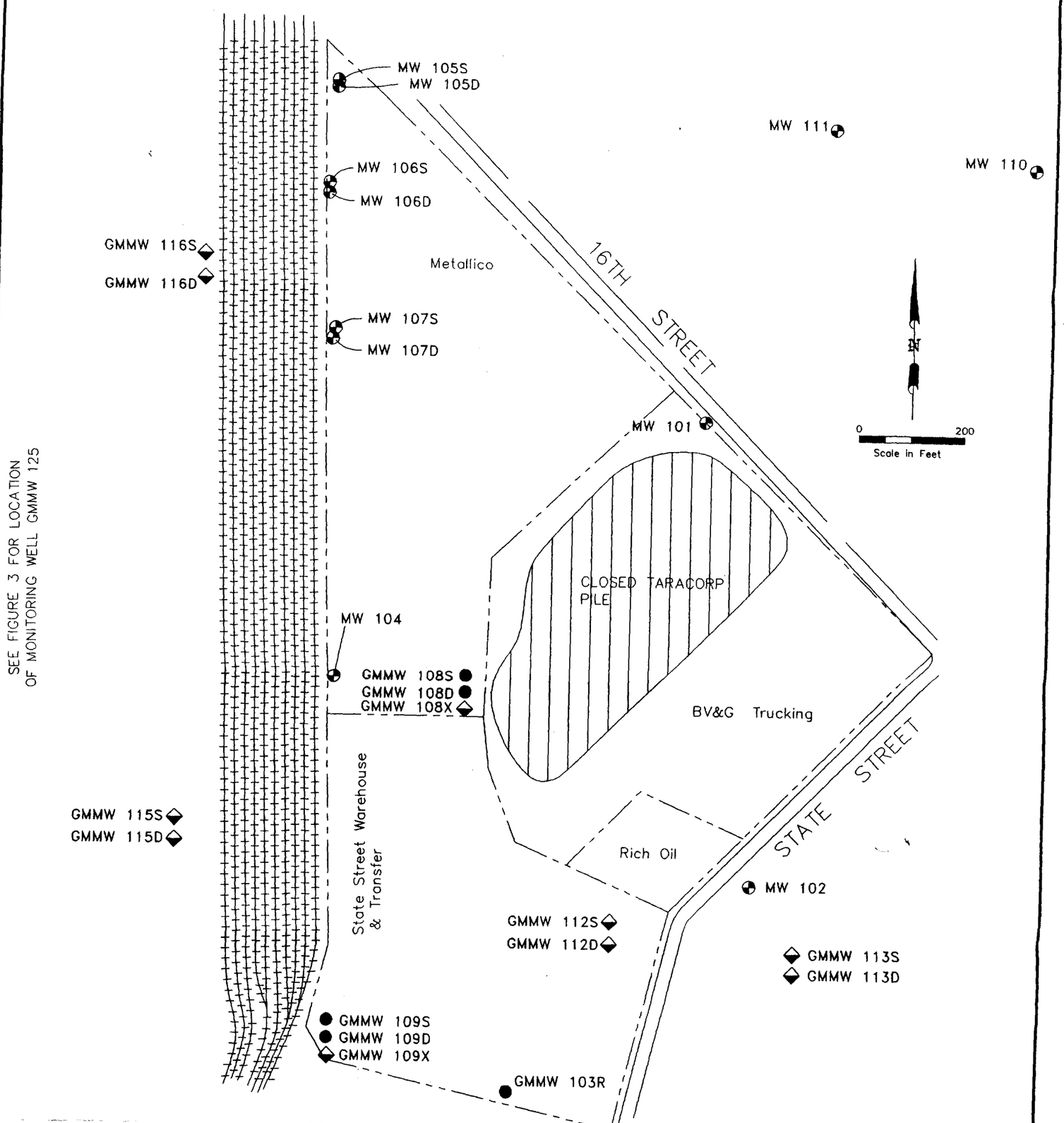
William E. Muno Date
Superfund Division Director

Not Concur _____

William E. Muno Date
Superfund Division Director

Date: 08/16/00 Project No.: CI001003.0002 Filename: 00CI0323.DWG Drwn By/Plot Scale: NEK/1=200

SEE FIGURE 4 FOR LOCATION
OF MONITORING WELL GMMW 126



SEE FIGURE 3 FOR LOCATION
OF MONITORING WELL GMMW 125

GMMW 124S
GMMW 124D

LEGEND

MW101	◓	EXISTING MONITORING WELL/IDENTIFICATION
	———	PROPERTY LINE
GMMW 112S,D	◆	PROPOSED MONITORING WELL CLUSTER/IDENTIFICATION (Shallow and Deep depths)
GMMW 109X	◆	PROPOSED DEEPER MONITORING WELL/IDENTIFICATION
GMMW 103R	●	PROPOSED REPLACEMENT MONITORING WELL/IDENTIFICATION
	S	SHALLOW (12–34 FEET BELOW LAND SURFACE)
	D	DEEP (27–44 FEET BELOW LAND SURFACE)
	X	DEEPER (40–50 FEET BELOW LAND SURFACE)

Source: Woodward–Clyde Consultants, Figure No.1, November 11, 1993, Proj. no. C3M11Q.

ARCADIS GERAGHTY & MILLER
35 East Wacker Drive
Suite 1000, Chicago, Illinois 60601
Tel: 312/263-6703 Fax: 312/263-7897

DRAWN: NEK	DATE: August 16, 2000	PROJECT MANAGER: J KRATZMEYER	DEPARTMENT MANAGER: J KRATZMEYER
MAIN INDUSTRIAL SITE MONITORING WELL LOCATIONS PRE-DESIGN INVESTIGATION WORK PLAN NL INDUSTRIES/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS		LEAD DESIGN PROF.: N Karnezis	CHECKED: A TOKARSKI
		PROJECT NUMBER: CI001003.0002	FIGURE NUMBER: 1

Date: 08/16/00 Project No.: CI001003.0002 Filename: 00CI0328.DWG Drwn By/Plot Scale: NEK/STF

0 100

LEGEND

GMMW 123 MONITORING WELL LOCATION/IDENTIFICATION

ARCADIS GERAGHTY & MILLER

35 East Wacker Drive
Suite 1000, Chicago, Illinois 60601
Tel: 312/263-6703 Fax: 312/263-7897

MAIN INDUSTRIAL SITE
MONITORING WELL LOCATION GMMW 123
12TH STREET AND MADISON AVENUE
NL INDUSTRIES/TARACORP SUPERFUND SITE
GRANITE CITY, ILLINOIS

PROJECT NUMBER
CI001003.0002

FIGURE NUMBER
2

Drwn By/Plot Scale: NEK/STF

Filename: 00C10326.DWG

Project No.: C1001003.0002

Date: 08/16/00

N

0 100

LEGEND

GMMW 125 MONITORING WELL LOCATION/DENTIFICATION

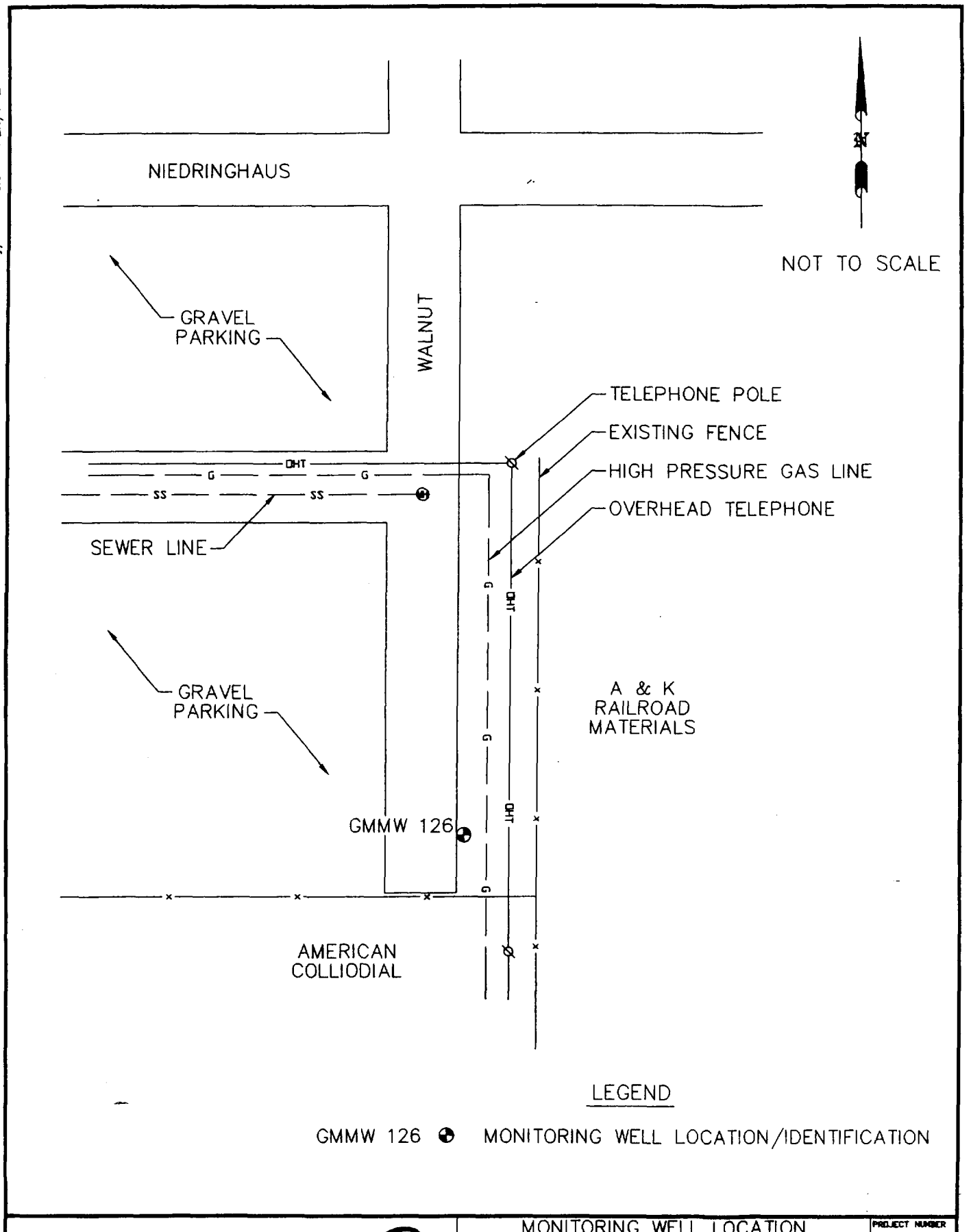
ARCADIS GERAGHTY & MILLER

35 East Wacker Drive
Suite 1000, Chicago, Illinois 60601
Tel: 312/263-6703 Fax: 312/263-7897

MAIN INDUSTRIAL SITE
MONITORING WELL LOCATION GMMW 125
GRANITE CITY STEEL
NL INDUSTRIES/TARACORP SUPERFUND SITE
GRANITE CITY, ILLINOIS

PROJECT NUMBER
C11003.002

FIGURE NUMBER
3



Date: 08/16/00 Project No.: . CI001003.0002 Filename: 00CI0327.DWG Drwn By/Plot Scale: NEK/1=2

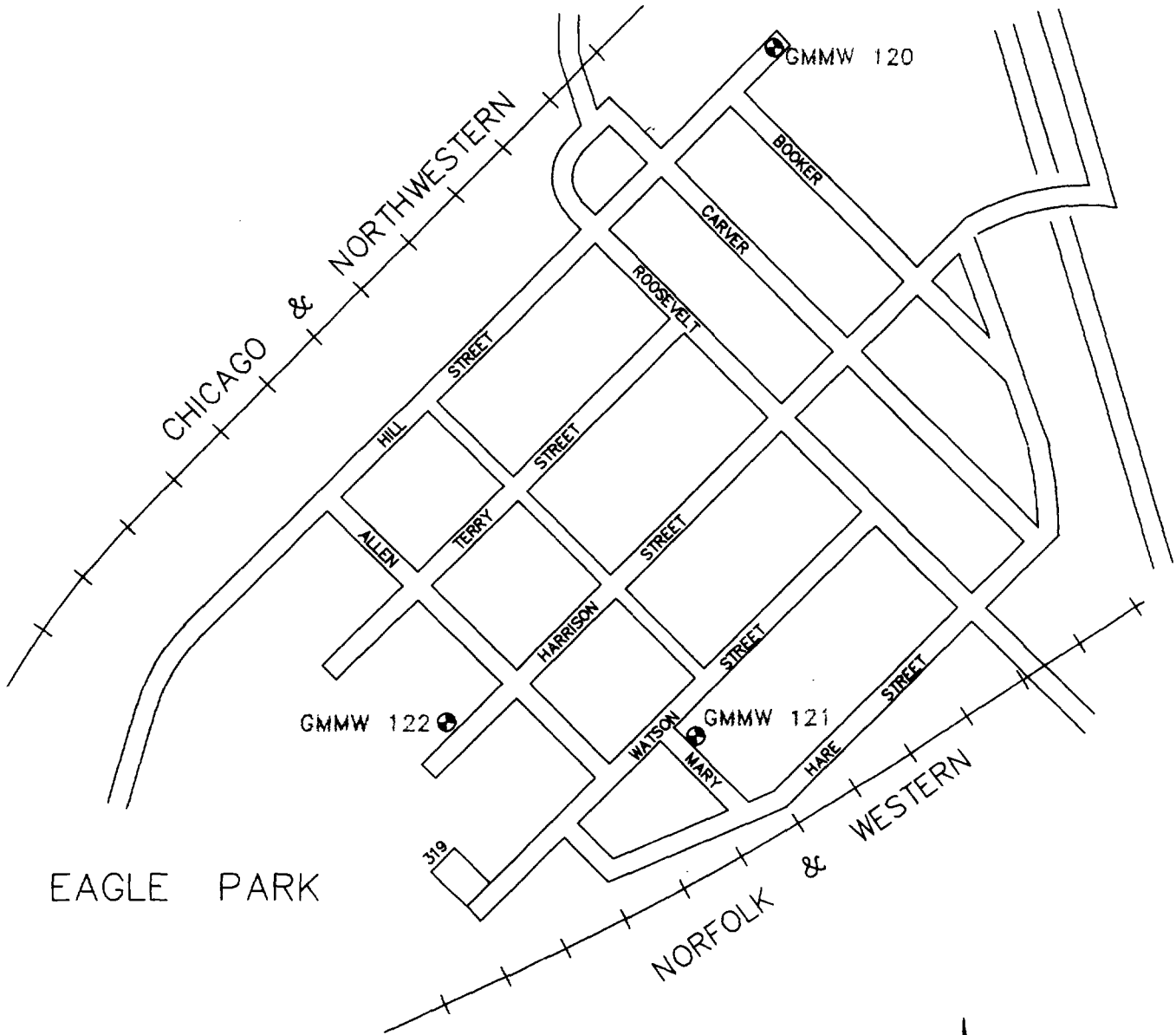
ARCADIS GERAGHTY & MILLER

36 East Wacker Drive
Suite 1000, Chicago, Illinois 60601
Tel: 312/263-6703 Fax: 312/263-7887

MONITORING WELL LOCATION
GRANITE CITY RIGHT-OF-WAY
PRE-DESIGN INVESTIGATION WORK PLAN
NL INDUSTRIES/TARACORP SUPERFUND SITE
GRANITE CITY, ILLINOIS

PROJECT NUMBER
CI1003.02

FIGURE NUMBER
4



LEGEND

GMMW 120 ⊕ PROPOSED SHALLOW MONITORING WELL/ IDENTIFICATION

N

0 500

Scale in Feet

Basemap Source: Woodward-Clyde Consultants, Figure 1-6, June 1, 1994, Proj. No. C3M11Q.

Date: 08/16/00 Project No.: CI001003.0002 Filename: 00CI0325.DWG Drwn By/Plot Scale: NEK/1=500

ARCADIS GERAGHTY & MILLER

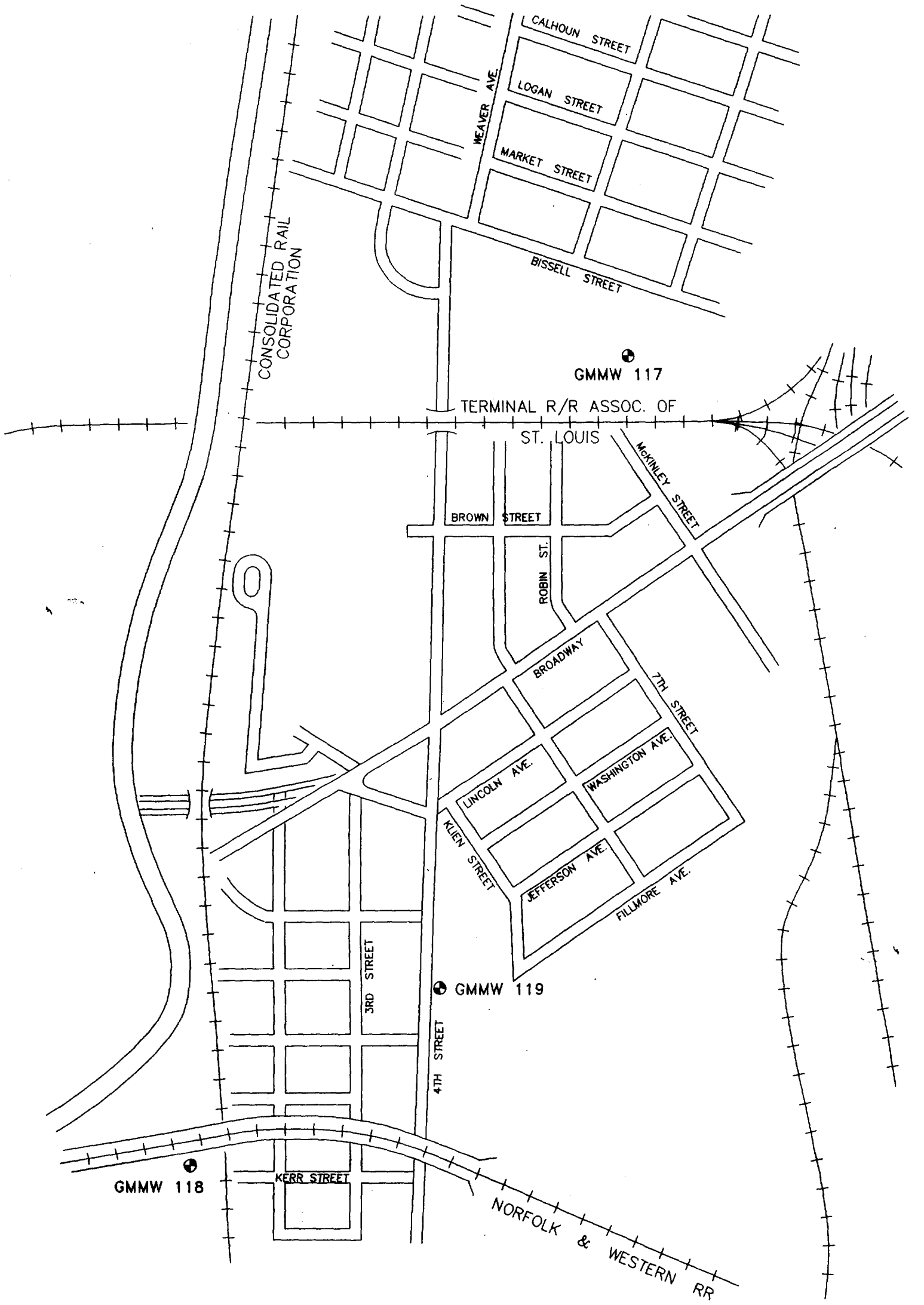
35 East Wacker Drive
Suite 1000, Chicago, Illinois 60601
Tel: 312/263-8703 Fax: 312/263-7897

EAGLE PARK ACRES
NEW MONITORING WELL LOCATIONS
PRE-DESIGN INVESTIGATION WORK PLAN
NL INDUSTRIES/TARACORP SUPERFUND SITE
GRANITE CITY, ILLINOIS

PROJECT NUMBER
CI1003.002

FIGURE NUMBER
5

Date: 08/16/00 Project No.: CI001003.0002 Filename: 00CI0324.DWG Drwn By/Plot Scale: NEK/1=600



LEGEND

GMMW 117 ⊕ PROPOSED SHALLOW MONITORING WELL/IDENTIFICATION

Basemap Source: Woodward-Clyde Consultants, Figure No. 1-7, February 14, 1994, Proj. No. C3M11Q.

ARCADIS GERAGHTY & MILLER 35 East Wacker Drive Suite 1000, Chicago, Illinois 60601 Tel: 312/263-6703 Fax: 312/263-7887	DRAWN: NEK	DATE: August 16, 2000	PROJECT MANAGER: J KRATZMEYER
	LEAD DESIGN PROF.: N Kornetis	CHECKED: A TOKARSKI	DEPARTMENT MANAGER: J KRATZMEYER
VENICE TOWNSHIP NEW MONITORING WELL LOCATIONS PRE-DESIGN INVESTIGATION WORK PLAN NL INDUSTRIES/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS	PROJECT NUMBER: CI001003.0002		FIGURE NUMBER: 6